

BEST AVAILABLE COPY Attorney Docket No. 170707-1014REMARKS / ARGUMENTS*Cancelled Claims*

As noted, Claims 9-18 were previously cancelled in response to the Election/Restriction Requirement mailed August 26, 2004.

Claim Rejections – 35 USC §102

Claims 14 stand rejected under 35 U.S.C. 102(b or e) as being anticipated by Domb *et al.* (paragraphs 20, 84, 100), Lawlor (col. 1, lines 5-25, col. 2, lines 60-col. 3 line 25, col. 6, lines 50-end, col. 8, lines 1-13, col. 21, lines 20-28), Shefer, *et al.* (paragraphs 81, 101, 128, the claims), Hollenbeck (abstract, col. 2, lines 53-end), Wilkins Jr., *et al.* paragraphs 8, 9, 52, 54, 56, and the claims), Rajaiah *et al.* '007 (col. 2, lines 51-55, col. 7, lines 3043, col. 11, lines 2947, col. 14, lines 43-53, examples 13- 19), Rajaiah *et al.* '406 (col. 2, lines 3540, col. 7, lines 1-25, col. 13, lines 1-25, examples 13-19), Guay *et al.* (col. 3, lines 20-33, col. 5, lines 35-55, col. 9, lines 25-45, col. 13, lines 1-35), or Rajaiah *et al.* '108 (paragraphs 12, '36, 51; 60, 69, 78,' 85).

The Examiner's position is that the references each teach as indicated above that a grapefruit seed extract is in a form for use by a fogging device, *i.e.*, spray or aerosol. Furthermore, the Examiner argued that each extract inherently contains the grapefruit quarternary compound and glycerin since they come from the grapefruit seed extract which is taught.

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Claim 1 has been amended herein to point out that the primary difference between the formulations of the prior art and the formulation of the present invention is that while the formulations of the prior art were (sometimes) intended to be used in "sprays" and "aerosols", the formulation of the present invention, on the other hand, is specifically formulated for air borne administration in the form of a "fog" using a fogging machine. In that respect, none of the cited prior art was either intended to be administered as a "fog" or through the use of a fogging machine.

As set forth in the specification (at pages 4-5) the term "fog" is used to describe a flash evaporation process which differs in several respects from either the sprays or aerosols described in the cited art. In particular, the intent of the "air borne application" of the present formulation is that the mold suppressant formulation remains suspended in the air for an extended period of time, rather than merely passing through the air for direct application as a "spray" (See, Specification, page 4, lines 10-13). The importance of this distinction is that particles of the mold suppressant of such a small size, and of such great density, that they are able to fully permeate all surfaces and cavities within the volume being treated. Sprays, as set forth in the cited prior art, merely treat the specific areas to which the sprays are applied (See, Specification, at page 4, lines 13-17).

Further, administration of the formulation of the present invention can be accomplished by using a fogging machine to produce a heated fog which is less dense than air, whereby the particles of the inventive formulation are actually able to rise within

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wall cavities and other enclosed areas, e.g., HVAC ducts (See, Specification, at page 4, lines 17; page 5, line 5). As set forth in the specification (See, page 5, lines 15-20).

Another advantage of the present formulation, which further distinguishes it from the formulations of the cited art, is that the formulation is adapted for "glycol fogging", which means that the formulation includes a sufficient amount of propylene glycol to allow it to form a fog when used in a fogging machine. It has been found that the quantity of propylene glycol which is sufficient to provide proper operation in a fogging machine has a dehydrating effect on mold, whereby the mold is dried out when contacted by the formulation, which further enhances the suppression of the mold by the present formulation (See, Specification, at page 5, lines 1-3).

Domb, et al. (Pub. No. US 2003/0003140)

Referring to the specific art cited by the Examiner, Domb, *et al.* refer (par. [0020]) to an oral topical adhesive applied herb mixture for treatment of oral infection lesions. They use a mixture of two herbs of essential oils, not necessarily grapefruit seed extract. The formulation described is not intended for environmental treatment, and it is specifically not intended for environmental treatment as a fog which can be administered using a fogging machine.

At paragraph [0084], Domb, *et al.* add a humectant which acts as a plasticizer for a flexible, comfortable sticker to apply orally. While Domb, *et al.* refer to the use glycerin

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and propylene glycol, they recommend, especially, the use of sorbitol and glycerin, rather than propylene glycol, thereby teaching away from the present formulation. In any event, nothing in Domb, *et al.* would indicate that a sufficient amount of propylene glycol be used to allow the formulation to be administered as an air borne fog.

At paragraph [0100] Domb, *et al.* list a group of herbs, one of which is grapefruit seed extract, which has been used for years for antibiotic and antifungal action. The mere presence of grapefruit seed extract and citrus extracts is not sufficient to provide a formulation which can be used in an environmental application in which there is an air borne administration of a flash evaporated fog capable of penetration into wall cavities, clothing, electronic devices, HVAC units, etc., as taught in the present invention, and as set forth in the present claims. Without the correct amounts of each, it has been found that the fungi will not be effected and can easily continue to grow. Grapefruit seed extract, alone, cannot be administered as a fog, using a fogging machine, in a flash evaporation process.

Lawlor (U.S. Pat. No. 6,706,256)

Lawlor (col.1, lines 5-25) refers to an oral care product for oral malodor using grape or grapefruit seed extracts with fluoride. This shows that grapefruit seed extract is know to kill bacteria and mold but does not have address how to apply it into the environmental air. Lawlor cites (col. 2, line 49 – col. 3, line 10) prior art which disclose

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the use of grapefruit seed extract and citrus pulp for oral mixtures for halitosis, but Lawlor discusses no formulation intended for environmental treatment of mold by using a fog.

Elsewhere in Lawlor there are further teachings and discussions which may include discussions of grapefruit seed extract, but nothing in Lawlor relates to a formulation of a mold suppressant which can be used in a fogged application for environmental treatment (*e.g.*, at col. 3 line 25, *et seq.* there is a description of the benefit of grapefruit seed extract for oral malodor; at col. 6, line 50, *et seq.* describes the use of a mixture for oral hygiene, wash, spray, paste or others; at col. 8, lines 1-13 there is reference to mixtures of different citrus extracts including grapefruit seed extract for oral application for halitosis and oral lesions; at col. 21, lines 20-28 there is a description of the use of humectants, such as glycerin and propylene glycol, in preferred amounts between 15%-55%). None of the foregoing relates to a formulation of the type described and claimed in the present application.

Shefer, *et al.* (Pub. No. US 2003/0232091)

Shefer, *et al.*, at paragraph [0081] refers to retinal micro-spheres used in many dermatologic preparations for sustained release in sprays, creams, etc. Paragraph [0101] refers to the use of a controlled release system to release anything that treats acne, including grapefruit seed extract. Paragraph [0128] refers to applying a controlled

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release system for skin application using many different moisturizing agents, including glycerin and propylene glycol. Glycerin and propylene glycol have been used in a multitude of products for their moisturizing effects. However, in the present invention, propylene glycol is used so that the formulation of the present invention can be administered using a fogging machine for environmental treatment of mold using a heated fog of fine particles.

Other Cited Art

While the other art cited by the Examiner, namely, Hollenbeck (abstract, col. 2, lines 53-end), Wilkins Jr., *et al.* (paragraphs 8, 9, 52, 54, 56, and the claims), Rajaiah *et al.* '007 (col 2, lines 51-55, col. 7, lines 30-43, col. 11, lines 29-47, col. 14, lines 43-53, examples 13- 19), Rajaiah *et al.* '406 (col: 2, lines 3540, col. 7, lines 1-25, col. 13, lines 1-25, examples 13-19), Guay *et al.* (col. 3, lines 20-33, col. 5, lines 35-55, col. 9, lines 2545, col. 13, lines 1-35), or Rajaiah *et al.* '108 (paragraphs 12, 36, 51, 60, 69, 78, 85) have multiple references to the use of grapefruit seed extract, none of the cited art discusses a formulation which is intended and formulated for environmental treatment of mold using an air borne administration of a fog which is created through a flash evaporation process, and which can be heated such that the small particles can rise and permeate environmental areas.

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Claim Rejections – 35 USC §103

Claims 1-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Domb *et al.* (paragraphs 20, 84, 100), Lawlor (col. 1, lines 5-25, col. 2, lines 60-col. 3 line 25, col. 6, lines 50-end, col. 8, lines 1-13, col 21, lines 20-28), Shefer *et al.* (paragraphs 81, 101, 128, the claims), Hollenbeck (abstract, col. 2, lines 53-end), Wilkins, Jr. *et al.*, paragraphs 8, 9, 52, 54, 56, and the claims), Rajaiah *et al.* '007 (col. 2, lines 51-55, col. 7, lines 30-43, col. 11, lines 29-47, col. 14, lines 43-53, examples 13-19), Rajaiah *et al.* '406 (col. 2, lines 35-40, col. 7, lines 1-25, col. 13, lines 1-25, examples 13-19), Guay *et al.* (col. 3, lines 20-33, col. 5, lines 35-55, col. 9, lines 25-45, col. 13, lines 1-35), or Rajaiah *et al.* '108 (paragraphs 12, 36, 51, 60, 69, 78, 85).

The Examiner stated that using the specific amounts claimed would have been obvious since one would want to optimize the desired results. The Examiner further stated that it would also have been obvious to use the distilled water and the glycerin since as shown in the references, as such ingredients are well known to be added.

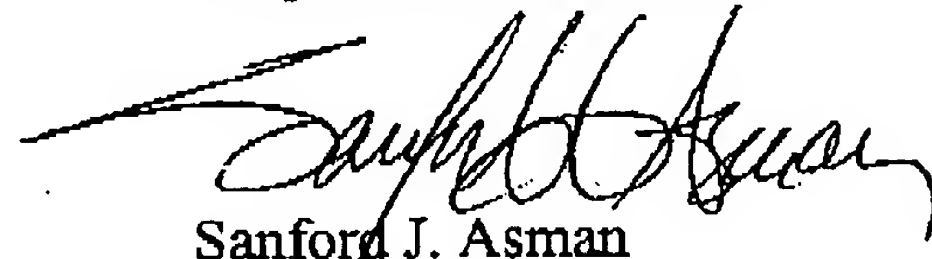
However, nothing in the art cited, or in any combination would have taught one of ordinary skill to create the formulation in the claims, as amended, such that a mold suppressant capable of air borne administration as a fog, using a fogging machine could be created. Nor would the other benefits (*e.g.*, the dehydrating effects of propylene glycol, the ability to heat the fog whereby it will rise in ducts, etc.) of the present formulation.

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In view of the present amendment to Claim 1, Claim 1 is considered to be patentable over the cited art, none of which teaches environmental treatment using a formulation which can be administered as a fog, or as a heated fog, using a fogging machine. In that Claims 2-8 all depend, directly or indirectly, from Claim 1, and are more limited in scope, Claims 2-8 are considered to be patentable at this time.

Reconsideration and allowance are, therefore, respectfully solicited.

Respectfully submitted,



Sanford J. Asman
Attorney for Applicants
Registration No. 26,251

Sanford J. Asman, Esq.
570 Vinington Court
Atlanta, GA 30350

Phone : (770) 391-0215
Fax : (770) 668-9144
E-mail: sandy@asman.com